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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,431	04/20/2006	Hideyoshi Horimai	211A 3855 PCT	2399

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EXAMINER
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CHOW, VAN NGUYEN

ART UNIT	PAPER NUMBER
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2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,431	<b>Applicant(s)</b> HORIMAI, HIDEYOSHI	
	<b>Examiner</b> V. N. CHOW	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 18-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. Applicant's election with traverse of Species in the reply filed on 04/16/2010 is acknowledged. The traversal is on the ground(s) that Figures 8 and 9 are explanations for [producing a master while rotating a disk-shaped recording medium is not essential for the claims 9-17. This is found persuasive. Therefore, no requirement to select between figures 8 and 9.

Elected claims 9-17, claims 1-8, 18-30 are now withdrawn.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites "said recording-specific reference light" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartolini et al. (US 4,121,881).

Regarding claim 9, .Bartolini discloses an optical information recording method for recording information recorded in a first optical information recording medium (see figs. 3 and 7, recording medium 8) onto a second optical information recording medium (see figs. 3 and 7, recording medium 34), said information of said first optical recording medium being recorded by interference pattern generated between virtual information light and virtual recording-specific reference light in irradiation regions by irradiating said virtual information light composed of information light to which information is added by performing spatial modulation and of said recording-specific reference light, and said virtual recording-specific reference light onto said first optical information recording medium having an information recording layer to which information is recorded using holography (see figs. 1-2, first and second recording beams 20, 22, first and second object beams 19, 21, respectively), comprising the steps of:

irradiating virtual reproduction-specific reference light under same condition as that of said virtual recording-specific reference light onto said first optical recording medium (see figs. 3 and 7, reconstruction beam source 24, beams 25-28, primary recording medium 8);

irradiating said virtual information light generated from said information recording layer by irradiation of said virtual reproduction-specific reference light onto said second optical information recording medium (see figs. 3 and 7, reconstruction beam source 24, beams 25-28, secondary recording medium 34); and

recording interference pattern generated between information light and recording-specific reference light of said virtual information light in an information recording layer of said second

optical information recording medium (see figs. 3 and 7, reconstruction beam source 24, beams 25-28, secondary recording medium 34).

Regarding claim 10, discloses the optical information recording method according to claim 9, wherein said virtual reproduction-specific reference light is irradiated onto a plurality of said irradiation regions of said information recording layer of said first optical information recording medium and a plurality of sets of said virtual information light are reproduced from said plurality of irradiation regions at once (see fig. 3).

Regarding claim 11, discloses the optical information recording method according to claim 10, wherein said virtual reproduction-specific reference light is irradiated onto entire surface of said information recording layer of said first optical information recording medium (see col. 2, lines 10-40).

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 12-14, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartolini et al. (US 4,121,881) in view of Jenkins et al. (US 6,445,470).

Bartolini et al. discloses the optical information recording method according to any one of claims 9 to 11.

Jenkins et al. discloses virtual reproduction-specific reference light is phase-conjugate with virtual recording-specific reference light (see fig. 7F, elements 55, 55', 213a, 213b).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide phase conjugate mirrors in Bartolini et al. as suggested by Jenkins et al., the motivation being in order to have the references beams can be made to be substantially identical at the copy and at the master (see Jenkins line 43-55).

The combination of Bartolini et al. and Jenkins discloses wherein said virtual reproduction-specific reference light is phase-conjugate with said virtual recording-specific reference light and wherein said virtual reproduction-specific reference light is irradiated onto said first optical information recording medium in the direction opposite from that of said virtual recording-specific reference light (see Bartolini et al. fig. 3 and Jenkins fig. 7E, elements 55).

Regarding claim 14, the combination of Bartolini et al. and Jenkins discloses the optical information recording method according to any one of claims 9 to 11, wherein said virtual information light generated from said information recording layer of said first optical information recording medium is irradiated onto said second optical information recording medium by changing magnification (see col. 21, lines 42-62).

Regarding claim 16, the combination of Bartolini et al. and Jenkins discloses the optical information recording method according to claim 14, wherein said interference pattern that is generated between said information light of said virtual information light recorded in said information recording layer of said second optical information recording medium and virtual recording-specific reference light is reproduced by light with wavelength that is different from wavelength of said virtual reproduction-specific reference light (see Jenkins col. 22, lines 30-43).

Regarding claim 17, the combination of Bartolini et al. and Jenkins discloses the optical information recording method according to any one of claims 9 to 11.

Jenkins discloses the capability to make non-identical copies is that of wavelength conversion, in which the recording wavelength generated by the source array is not the same as the wavelength to be utilized in reconstruction. However, Jenkins does not disclose the first optical information recording medium is larger than said second optical information recording medium. Jenkins discloses of making non-identical copies, in which there is magnification of the spatial extent of the stored images by incorporating optical magnification into the path 110' (see col. 21, lines 42-50).

Noted for the non-identical copies of hologram are different sizes or first optical information recording medium is larger than said second optical information recording medium since the second copy needs the magnification of the spatial extent of the stored images.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide first optical information recording medium is larger than second optical information recording medium in the combination of Bartolini et al. and Jenkins with the non-identical copies in order to be useful in the case of the currently available volume holographic recording materials (see Jenkins col. 22, lines 30-43).

*Allowable Subject Matter*

8. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the references cited in record disclose or suggest the claim 15.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. N. CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Tuesday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. N. CHOW/

Primary Examiner, Art Unit 2627